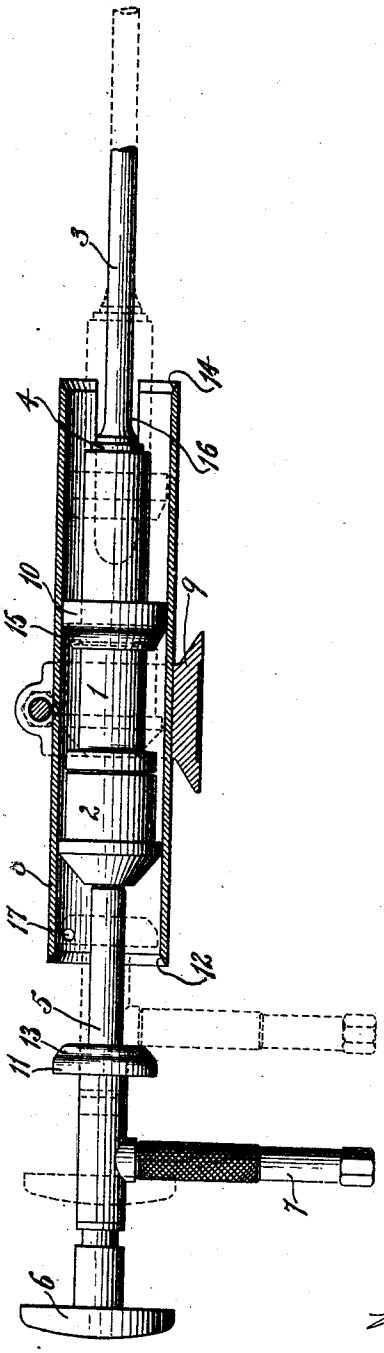
No. 840,803.

PATENTED JAN. 8, 1907.

W. PRELLWITZ.

HAMMER DRILL.

APPLICATION FILED JUNE 28, 1906.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM PRELLWITZ, OF EASTON, PENNSYLVANIA, ASSIGNOR TO INGERSOLL-RAND COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

HAMMER-DRILL.

No. 840,803. Specification of Letters Patent. Patented Jan. 8, 1907.

Application filed June 28, 1906. Serial No. 323,896.

To all whom it may concern:

Be it known that I, WILLIAM PRELLWITZ, a citizen of the United States, and a resident of Easton, in the county of Northampton and State of Pennsylvania, have invented a new and useful Improvement in Hammer-Drills, of which the following is a specification.

When a hammer-drill is operated with an air-feed and supported from a source otherwise than the operator, the drill-bit is held so rigidly that it does not cut as fast as though it were free to dance about. More rapid drilling, therefore, may be done by the operator supporting the drill and without the use of the air-feed. However, this latter method is extremely hard on the operator because of the weight of the drill.

The object of this present invention is to provide means otherwise than the operator for taking the weight of the drill, the drill at the same time being permitted to operate as though it were held in the hand.

In the accompanying drawing, a hammer-drill is shown in side elevation, and a support therefor is shown in longitudinal central section, the drill being shown in full lines in one position and in dotted lines in another position with respect to its support.

The tool-cylinder is denoted by 1, and to this cylinder is secured the head-block 2, in which is located the usual valve-box, of any well-known or approved form.

The drill-steel is denoted by 3, and it is held in the usual bushing 4 at the forward end of the cylinder 1 in position to be struck by the hammer-piston. (Not shown herein.) A hollow tail-rod 5 extends rearwardly from the head-block 2 of the cylinder 1, which tail-rod has swiveled thereto an end handle 6. The motive fluid is admitted to the hammer through a laterally-extended handle 7, fixed to the hollow tail-rod 5.

The weight of the tool is supported independently of the operator and the tool held in the proper angular position by means of a hollow guide-sleeve 8, open at both ends, which guide-sleeve is suitably clamped to a swivel 9, which swivel may be secured to any suitable support. (Not shown herein.) The head-block 2 is of slightly-less diameter than the interior diameter of the hollow guide-sleeve 8. The hammer is supported centrally in position within the hollow guide-sleeve 8 when in any of its rearward positions by means of a guide-ring 10, fixed to the cylinder 1. The hammer is supported centrally in position within the hollow guide-sleeve 8 when in any of its forward positions by means of a guide-ring 11, fixed to the hollow tail-rod 5. The rear end of the sleeve 8 is beveled, as shown at 12, and the front of the ring 11 is beveled, as shown at 13, to facilitate the entrance of the ring into the bore of the sleeve, and similarly the front end of the sleeve is beveled, as shown at 14, and the back of the ring 10 is beveled, as shown at 15, for the ready insertion of the ring 10 into the bore of the sleeve. Longitudinal slots 16, one of which is shown herein, are cut through the walls of the sleeve at its front end for the more ready insertion of longer lengths of drill-steels 3 into the chuck without the necessity of pulling the hammer-drill entirely out of the sleeve 8.

By the use of the form herein shown and described, I am enabled to obtain all the advantages of a hand supported and fed hammer-drill and at the same time relieve the operator from the weight of the drill.

In operation it is to be understood that the laterally-extended handle 7 may be oscillated to prevent the drill-bit rifling the hole being drilled. A hole 17 may be formed through the walls of the sleeve at a point near the rear end of the same for the insertion of a pin for preventing the drill from falling out of the sleeve when the drill is being operated at an angle or while the drill-steels are being changed when the drill is held in an angular position.

What I claim is—

1. In a hand-feed hammer-drill, means within which the drill may be freely moved for supporting the drill in the proper position independently of the operator.

2. In a hand-feed hammer-drill, means within which the drill may be freely moved for supporting the drill in the proper position independently of the operator comprising an open-ended hollow guide-sleeve embracing the drill.

3. In a hand-feed hammer-drill, its cylinder, means for supporting the drill in the proper position independently of the opera-

tor comprising an open-ended hollow guide-sleeve and a guide-ring on the cylinder fitted to enter the bore of the said sleeve.

4. In a hand-feed hammer-drill, its tail-rod, means for supporting the drill in the proper position independently of the operator comprising an open-ended hollow guide-sleeve and a guide-ring on the tail-rod fitted to enter the bore of the said sleeve.

5. In a hand-feed hammer-drill, its cylinder and tail-rod, means for supporting the drill in the proper position independently of the operator comprising an open-ended hollow guide-sleeve and guide-rings on the cylinder and tail-rod fitted to enter the bore of the said sleeve.

6. In a hand-feed hammer-drill, its cylinder and tail-rod, means for supporting the drill in the proper position independently of the operator comprising an open-ended hollow guide-sleeve and guide-rings on the cylinder and tail-rod fitted to enter the bore of the said sleeve, the ends of the sleeve and the said rings having tapered portions for facilitating the insertion of the rings into the said sleeve.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 26th day of June, 1906.

WILLIAM PRELLWITZ.

Witnesses:

WARD RAYMOND,

GEO. J. HARTMANN.